Objectives: Detection of MBL (Metallo-β-lactamase) and Amp C production in *Pseudomonas aeruginosa* isolates from various clinical samples and detection of virulence factors Alginate, Phospholipase 'C' in these isolates.

Methods: This study was conducted in the Deparment of Microbiology St John's Medical College Hospital between September 2009 and January 2011.A total of 250 isolates of *Pseudomonas aeruginosa* obtained from various clinical samples received at the laboratory were included in this study. The isolates of *P. aeruginosa* obtained from various clinical samples were identified using standard procedures. Isolates were tested for the presence of AmpC(Disc antagonism) & MBL (Imipenem (IMP)-EDTA Combined disk test). Isolates were also screened for the production of virulence markers, Alginate, Phospholipase-C using prescribed methods.

Results: 12.8% of the strains produced AmpC and 18% produced MBL. One isolate was observed to produce both AmpC and MBL. In 68.8% of the isolates, no AmpC and/or MBL production was detected. 50% of the isolates produced both alginate and phospholipase C (n = 125). Alginate production was observed more among the isolates obtained from burn patients (95%), closely followed by diabetic foot ulcer (86%). Among the clinical conditions more Phospholipase producers were detected from *P. aeruginosa* isolated from burns (85%) closely followed by isolates from diabetic foot ulcer (72.3%).

Conclusion: *Pseudomonas aeruginosa* is an important agent causing nososcomoial infections in the hospital. Virulence factors such as alginate and phospholipase C are commomly associated with these strains of *Pseudomonas aeruginosa*. AmpC and MBL production has been noticed among isolates of *Pseudomonas aeruginosa* in this study. Virulence factors such as alginate and phospholipase C were commomly associated with *Pseudomonas aeruginosa* isolates. There is a need to formulate an antibiotic policy to better utilize antibiotics in treatment of Pseudomonal infections and prevent evolution of drug resistant organisms in the hospital.

http://dx.doi.org/10.1016/j.ijid.2012.05.867

Type: Poster Presentation

Final Abstract Number: 45.077
Session: Bacterial Infections
Date: Friday, June 15, 2012
Time: 12:45-14:15
Room: Poster & Exhibition Area

Scrub typhus in India: predictors of severity and outcome

G. Varghese[1,*], J. Janardhanan[2], O. Abraham[1], P. Mathews[1], K. Thomas[1], J. Prakash[1], D. Mathai[3]

[1] *Christian Medical College, Vellore, India*
[2] *Christian Medical College and Hospital, Vellore, Tamil Nadu, India*
[3] *Christian Medical College and Hospital, Vellore, India*

Background: Scrub typhus is a chigger-borne rickettsiosis prevalent in Asia caused by *Orientia tsutsugamushi* that manifests with fever and multi-organ involvement. It causes life threatening complications if not recognized and treated early. This study was done to investigate the predictors of severity and poor outcome in patients with scrub typhus.

Methods: Adult patients admitted with scrub typhus confirmed by IgM ELISA and/or pathognomonic eschar to a university teaching hospital in India between March 2005 and February 2010 were included. The causative agent was further confirmed by PCR and sequence analysis of the 56-kD type-specific antigen gene on eschar samples from many patients. Using a standard form, we retrospectively collected data on the patients' characteristics, laboratory data, and outcome, and compared those with multiple organ dysfunctions (severe scrub typhus) with those without such dysfunction and analyzed predictors of mortality.

Results: Six hundred and twenty-three patients with mean age of 45 years were included. Majority were agricultural workers and housewives. Mean duration of illness before presentation was 9 days with common symptoms of fever, breathlessness, nausea/vomiting and headache. Eschar was present in 43% and major complications included ARDS (33.7%), hypotension requiring ionotropic support (23.1%), hepatitis with bilirubin >2.5 gm/dl (29.2%), meningoencephalitis (18.8%) and renal impairment with creatinine >2.5 gm/dl (13.8%). Severe scrub typhus with multiorgan dysfunctions was present in 63%. Multivariate analysis for independent predictors of severity revealed the following significant factors: shortness of breath ($p < 0.001$), tachycardia (0.001), hypotension (0.013), hepatitis (0.04), elevated creatinine (<0.001), abnormal CSF analysis (<0.001) and ARDS (<0.001). Case fatality rate was 8.9%. Independent predictors of mortality were altered sensorium (0.01), hepatitis with bilirubin >2.5 mg/dl ((0.05), hypotension requiring ionotropic support (<0.001), serum creatinine >2.5 mg/dl (0.002), requirement of ventilatory support (0.007). There was a dramatic response to doxycycline in nearly all the patients who survived with mean fever defervesence duration of 2 days.

Conclusion: Scrub typhus is a multi-system infection causing significant morbidity and mortality in South India. Altered sensorium, hepatitis, hypotension requiring ionotropic support, renal dysfunction, and requirement of ventilatory support predicted poor outcome. Early diagnosis and appropriate therapy could reduce the mortality.

http://dx.doi.org/10.1016/j.ijid.2012.05.868

Type: Poster Presentation

Final Abstract Number: 45.078
Session: Bacterial Infections
Date: Friday, June 15, 2012
Time: 12:45-14:15
Room: Poster & Exhibition Area

Latero-cervical actinomycosys in an HIV infected patient - case presentation

A. Vata[1,*], C. Nicolau[2], L. Ghibu[1], D.C. Manciuc[1], L.J. Prisacariu[2], A. Strat[2], C. Andreescu[2], C. Dorobat[1]

[1] *University of Medicine and Pharmacy Iasi, Iasi, Iasi, Romania*
[2] *Infectious diseases Hospital, Iasi, Romania*

Background: Actinomycosis is usually an indolent slowly progressive infection caused by a bacteria usually colonizing the oral cavity and is associated with an altered immune status.

Results: We present the case of a 34 years old patient with advanced HIV infection (stage C3 AIDS) who presents with fever, painful soft-tissue swelling involving the left laterocervical region, otalgia, loss of appetite, weight loss. The lesion slowly becomes larger and then spontaneously opens after 10 days, eliminating yellowish pus. The laboratory examination reveals a low CD4 count (3/mm3), viral HIV load of 950000 c/ml, severe anemia, leucopenia, with increased neutrophils; the biopsy showed large areas of necrosis, some with lymfocites an damaged neutrophils and the Gram-stained smear from the pus demonstrated the presence of beaded, branched, gram-positive filamentous rods suggestive